

National Marine Sanctuaries  
National Oceanic and Atmospheric Administration



NATIONAL MARINE  
SANCTUARIES

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OLYMPIC COAST



# OCNMS Management Plan Implementation

## FY 2017 Priorities

By: OCNMS staff

November 4, 2016 AC meeting

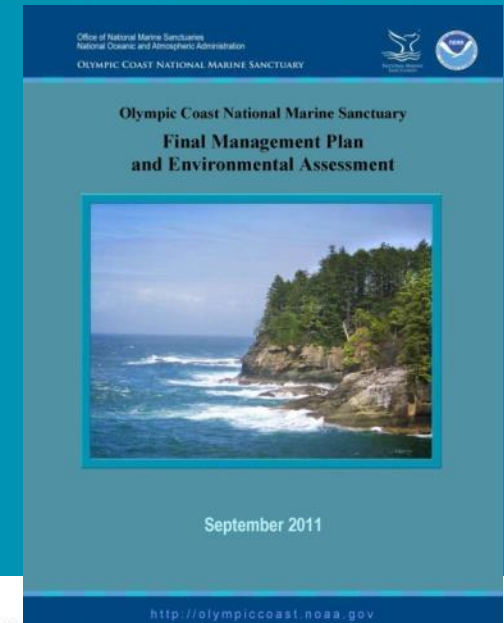
# OCNMS Management

## 2008-2011 Management Plan Review Process

- FY 2016 Implementation Report
  - Highlights
  - Performance Measures
  - Report on strategies
- *FY 2017 Implementation Priorities*

# 2011 Management Plan Structure

- 6 Priority Issues
  - 20 Action Plans
    - 84 Strategies
      - Several hundred potential activities
    - Different funding scenarios
  - Time period from 5-10 years
  - FY 2017 = year 6



Action Plans/Strategies	MP Priorities, Lead Funding Source(s), FY13-FY15 Status	Implementation Tracking	Table Legend	
			Implementing Status for FY 2013 Activities	Status
			□ - Not related or planned ○ - Initiated 1-25% ◐ - Initiated 26-50% ● - Initiated 51-75% ■ - Completed	
<b>A1. Collaborative and Coordinated Sanctuary Management Action Plan</b>				
CCM External Evaluation	11	○	No activities identified for FY 13	
CCM Coastal Treaty Tribes	11	○	No activities identified for FY 13	
CCM Olympic Coast Intergovernmental Policy Council	11	●	The sanctuary supported the IPC by providing input to meeting agendas, providing requested information and briefing on important management issues. A joint meeting between the AC and IPC was held in November 2012. The annual meeting with the CCMs director was planned but postponed at the IPC's request.	
CCM Washington State	11	●	A Memorandum of Agreement (MOA) was finalized January 2013 among NOAA's Office of National Marine Sanctuaries, through the Olympic Coast National Marine Sanctuary, and the NPS, the NWS, the Cascade Tribe, the Cascade Indian Nation, and the State of Washington. The term of the MOA is for an additional 5 years.	
CCM Department of Interior	11	●	CCM staff met with the Washington State Coastal Caucus and Advisory Council to discuss implementation of the Ocean Action Plan (OAP) and sanctuary management plan, and to identify how CCMs research and conservation efforts can complement OAP implementation efforts. It was agreed that areas of collaboration in 2013 would be focused on CCMs support to the ongoing state efforts related to Marine Spatial Planning, specifically work on (1) habitat mapping priorities, (2) MPA goals and objectives setting, and (3) participating in human use mapping workshops.	
CCM US Coast Guard	11	●	Annual meeting with CAG Superintendent and USFWS Project Leader. Participated in Olympic National Park annual interpretive training. Coordinated with CAG and others on Museum dock removal and annual beach cleanups. Technical staff consultation and collaboration in harbor meeting, marine debris, permitting and enforcement. Collaborated with USFWS on a pilot project using a NOAA UAVS (Unmanned Aircraft Vehicle System) to monitor seabird colonies and marine debris. CCMs accepted an offer to be a cooperating agency on the CAG Wilderness Stewardship Plan.	
CCM US Navy	11	●	CAG Coast Guard District Commander Rear Admiral Taylor signed an updated MOA with the Office of National Marine Sanctuaries. The purpose of the MOA is to coordinate the efforts of the CCMs and the USCG to meet their common commitment to protecting and managing the marine resources within CCMs. Prior to the signing Superintendent Carl Bentley (United States) Taylor on ongoing priority issues in the sanctuary. In a later meeting the new District Commander, Rear Admiral Gronick, was also briefed on the plan.	
CCM US Navy	11	●	CCM staff held an annual meeting with representatives from US Navy Northwest Region to discuss Navy and sanctuary activities that took place off the coast of Washington and to identify areas of potential collaboration for 2013. Sanctuary staff provided a briefing on 2012 research activities of interest to US Navy, and US Navy representatives discussed annual activities associated with the Cannon Tied Range and Northwest Training Range. US Navy also gave an update on the schedule for the Northwest Training and Testing (NNTT) Environmental Impact Statement (EIS). The NNTT EIS covers activities within the sanctuary and adjacent areas. CCMs subsequently provided comments on the EIS.	

# MP Priority Issues

- A. Fulfill treaty trust responsibility
- B. Achieve effective collaborative & coordinated management
- C. Conduct collaborative research, assessments and monitoring to inform ecosystem-based management
- D. Improve ocean literacy
- E. Conserve natural resources in the sanctuary
- F. Understand the sanctuary's cultural, historical and socioeconomic significance

# Achieve Effective Collaborative & Coordinated Management

- Intergovernmental Policy Council
- Washington State
- Advisory Council
- Vessel Infrastructure & Operations
- ✓ MP Implementation Reporting (year 5)

# IPC Habitat Framework Initiative

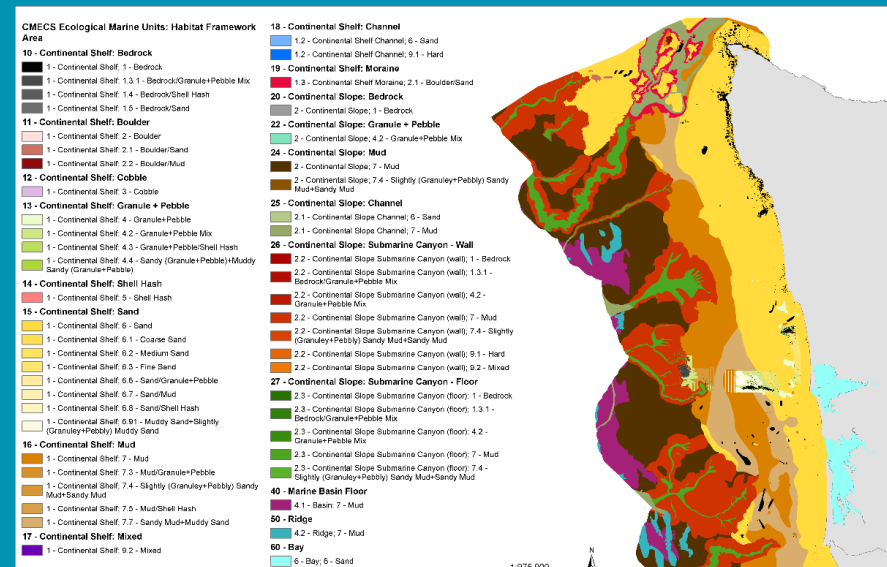
## Distribute Mapping Results: Ecological Marine Units

- Products presented and delivered to the Northwest Indian Fisheries Commission in early September 2016
- IPC will determine when results may be disseminated
- Further development is contingent on IPC

**Sediments**

**Geoforms**

**Ecological  
Marine Units**



# Washington State

- Consult with Washington State on priorities for collaboration
- Support Washington State MSP efforts
- Collaborate with MSP implementation
- Support Ocean Acidification efforts



# Infrastructure & Operations

- Work on a new lease for OCNMS space
- Conduct maintenance to ensure *R/V Tatoosh* remains in working order
- Finalize specifications for vessel replacement and further explore funding options
- Continue field operations including oceanographic moorings and habitat mapping

# Conduct Collaborative Research, Assessments and Monitoring

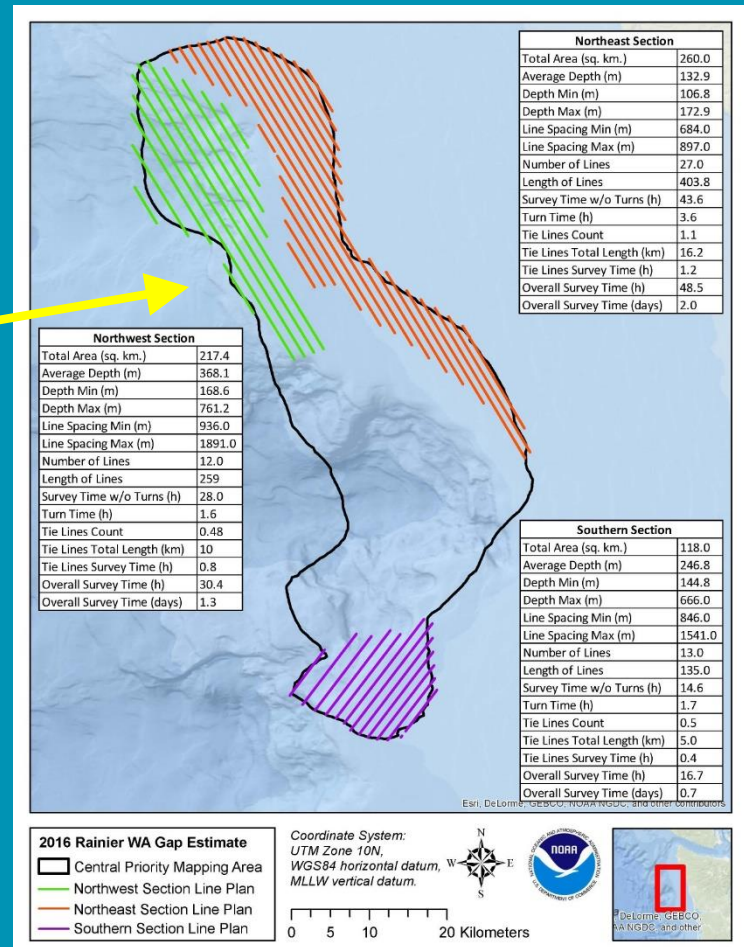
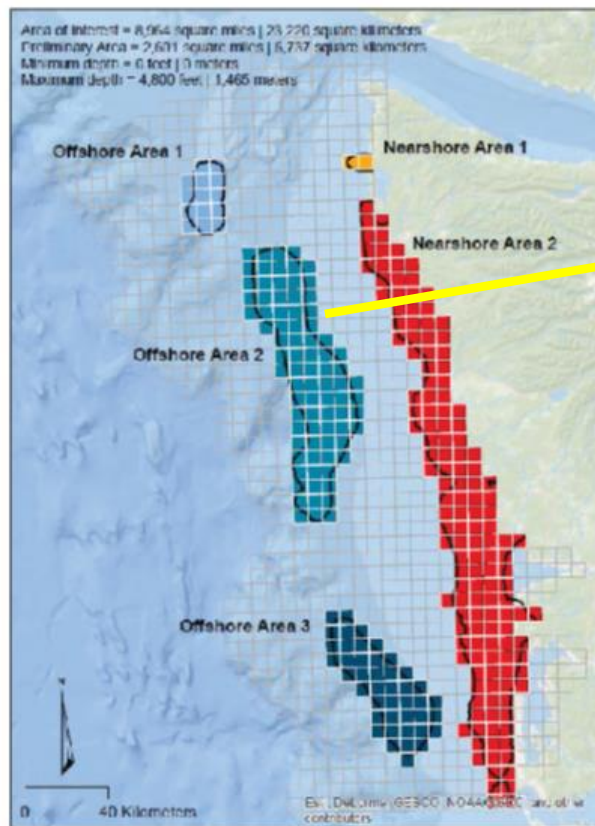
- Habitat Mapping and Classification
- Physical and Chemical Oceanography
- Populations, Communities and Ecosystems

# Habitat Mapping and Classification

## Spatial Prioritization

## R/V Rainier Mapping Plan: 2017

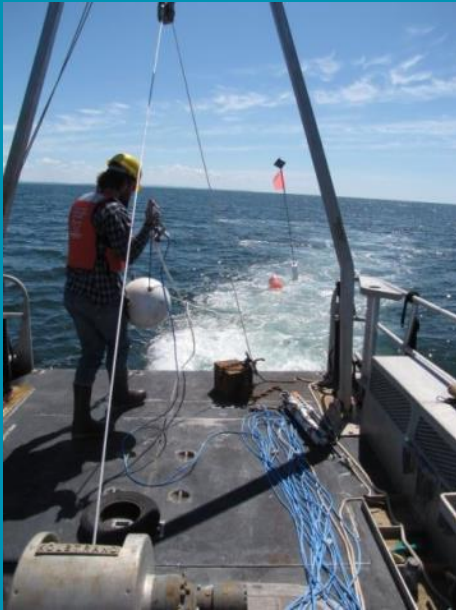
Figure 13: Preliminary priority mapping areas identified through cumulative hotspot analysis.



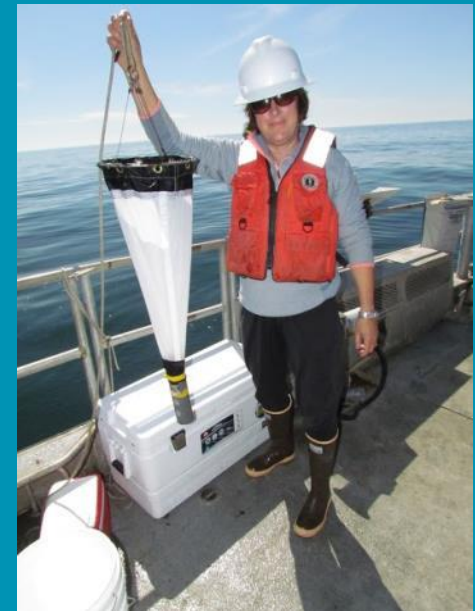
# Physical and Chemical Oceanography

- Coastal Mooring Program
- Hypoxia
- Ocean Acidification
- Harmful Algal Blooms (HABs)

# Coastal Mooring Program



- 17<sup>th</sup> year
- Funding challenges
- Improved data sharing
- Hypoxia monitoring
- Harmful algal bloom sampling



# Ocean Acidification

- Follow up on OA Sentinel Site Workshop:
  - Develop workshop report
  - Explore options for governance structure
  - Begin development of a Joint Research Plan
  - Inventory relevant OA efforts (existing and proposed)
- Help coordinate LOI and proposal for OA Regional Vulnerability Assessment competition
- Continue collaborating with PMEL on analysis of our mooring data for OA modeling purposes; preliminary results presented at October 2016 meeting (S. Alin)



# Populations, Communities & Ecosystems – Ongoing Projects



Intertidal monitoring



Subtidal surveys



Sea otter census

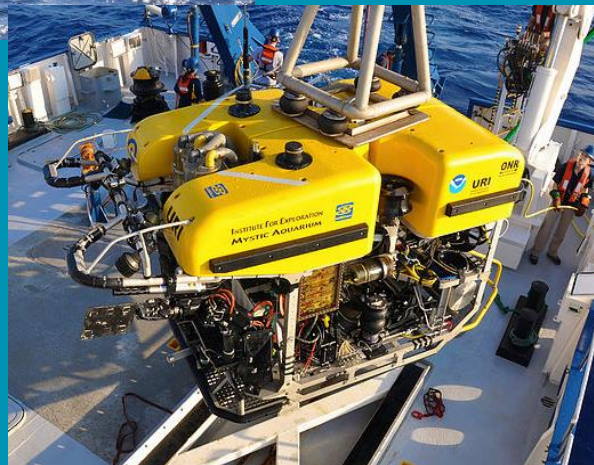


Pelagic seabird surveys

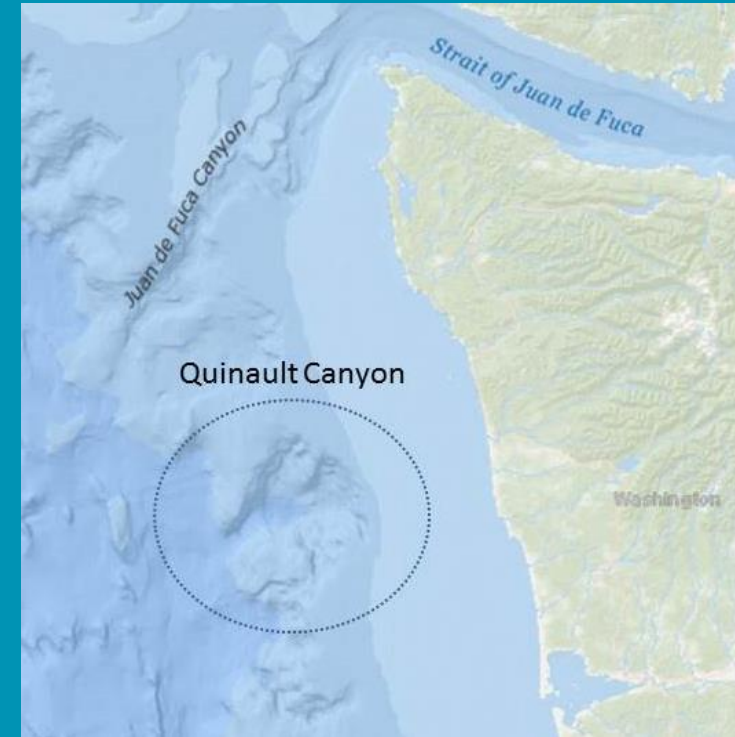
# Populations, Communities & Ecosystems



*E/V Nautilus*



*ROV Hercules*



Quinault Canyon  
exploration



# Improve Ocean Literacy

- K-12 Education
- Higher Education
- Visitor Services
- Community Outreach



# Improve Ocean Literacy

Nicole



Karlyn



Carey



Becca

Rob

Jacqueline

## Education & Outreach Team

# Improve Ocean Literacy K-12 Education



- Ocean Science

uses hands-on, inquiry and place-based activities to support coastal elementary school teachers, students and their families to better understand their local marine environment.

# Improve Ocean Literacy K-12 Education



- Ecosystem Penpal

a cultural and natural history exchange program that brings together indigenous students from different regions in the Pacific Rim.



# Improve Ocean Literacy K-12 Education



- ROV Clubs

provide opportunities to engage students in Science, Technology, Engineering, and Math (STEM) and provide context for deep sea research, marine technology, and tech careers.

# Improve Ocean Literacy K-12 Education



- **N.O.W. Science**

provides meaningful watershed educational experiences for elementary school students from Sequim, Port Angeles, and Crescent schools.



# Improve Ocean Literacy K-12 Education



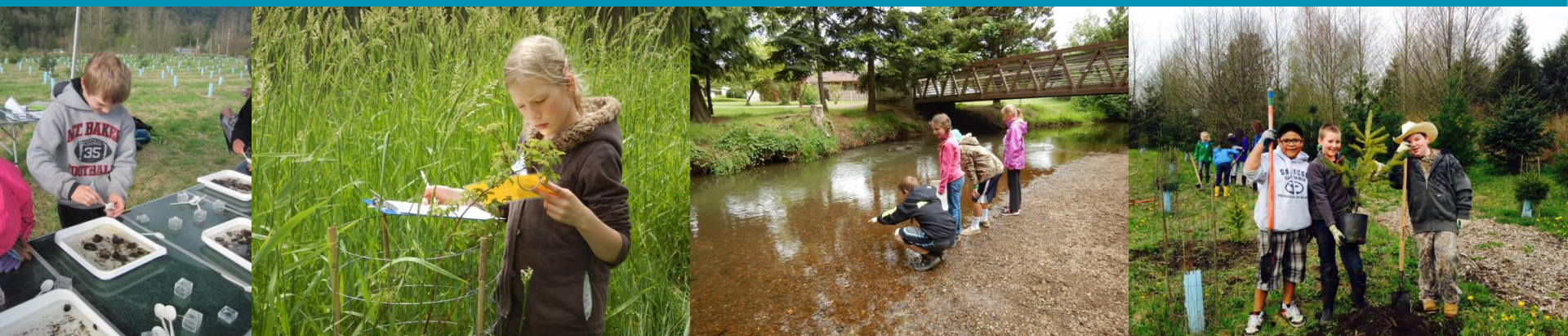
- Summer Youth Camps

- Junior Oceanographer & Marine Tech  
(in partnership with Feiro Marine Life Center)

- Tribal youth programs

(Makah Hidasubac Camp, Quileute Summer School,  
Hoh Watershed Adventure Camp, Quinault Youth Camp)

# Improve Ocean Literacy K-12 Education



- Pacific Northwest B-WET  
(Bay Watershed Education and Training)  
provides meaningful watershed educational  
experiences for students and related professional  
development for teachers



# Improve Ocean Literacy K-12 Education



- 2016-17 PNW B-WET Awards
  - Mid-Columbia Fisheries Enhancement Group (WA)
  - Feiro Marine Life Center (WA)
  - Nooksack Salmon Enhancement Association (WA)
  - RE Sources for Sustainable Communities (WA)
  - Lummi Indian Business Council (WA)
  - Environmental Science Center (WA)
  - Lower Columbia Estuary Partnership (OR)
  - Oregon Department of State Lands (OR)
  - Oregon State University (OR)

# Improve Ocean Literacy K-12 Education



## • Ocean Guardian

supports preK – 12 schools which make a commitment to the protection and conservation of its local watersheds, the world's ocean, and special ocean areas, like national marine sanctuaries through school- or community-based conservation projects.

# Improve Ocean Literacy K-12 Education



- 2016-17 Ocean Guardian Awards
  - Blue Heron School, Port Townsend, WA
  - Crescent School, Port Angeles, WA
  - Robert Gray Elementary School, Aberdeen, WA
  - Harbor Lights Middle School, Bandon, OR
  - Siuslaw Middle School, Florence, OR
  - Warrenton Prep Preschool, Warrenton, OR



# Improve Ocean Literacy Higher Education



- AmeriCorps
- Interns
- Teacher Workshops
- Opportunities for post-secondary students



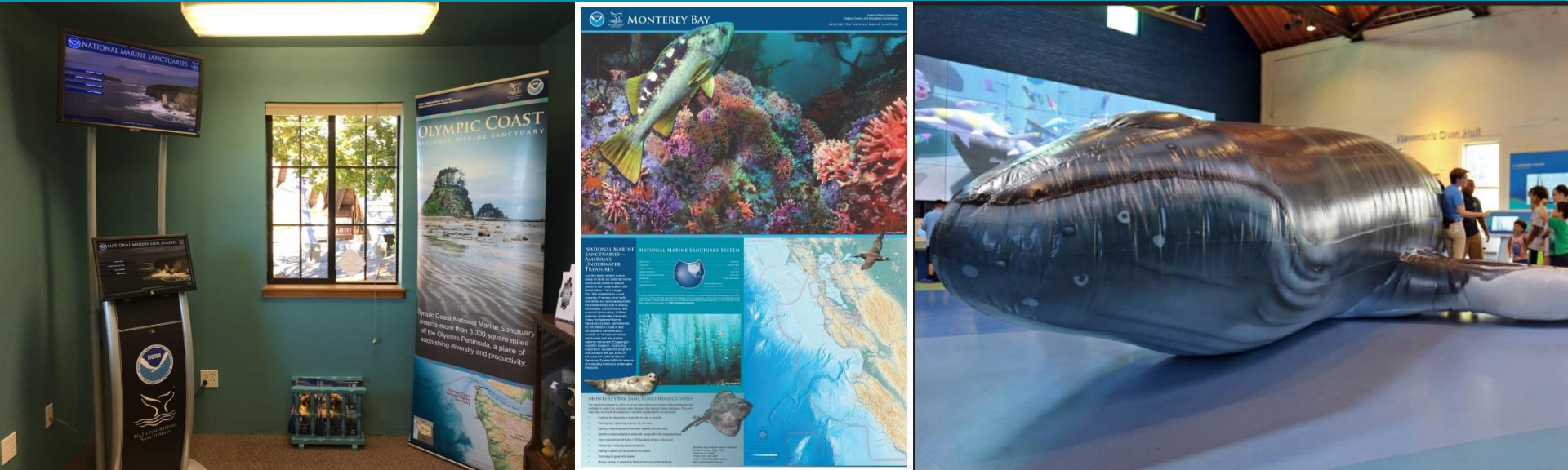


# Improve Ocean Literacy Community Outreach





# Improve Ocean Literacy Visitor Services



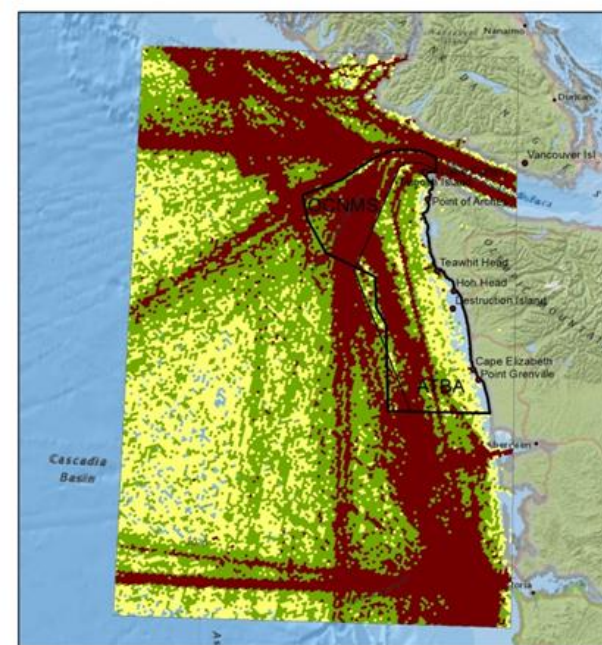
\* Kiosks \* Brochures \* Walk Inside Whale \* Website \* Social Media \*



# Conserve Natural Resources

- Sanctuary Operations
- ATBA Monitoring & Compliance
- Submerged Marine Debris
- Regional Ocean Planning
- Climate Change

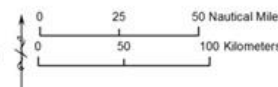
Traffic Intensity Patterns: All Vessel Types 2015



All Vessel Types 2015

Transits Per Square Mile

- Low Use: <16 Transits/sq mi/year
- Moderate Use: 17-63 Transits/sq mi/year
- Transit Areas: > 63 Transits/sq mi/year
- Area of Interest



Olympic Coast National Marine Sanctuary, 2015

# Climate Change

- Commission on Environmental Cooperation - rapid vulnerability assessment tool to identify climate-driven and other threats and evaluate the adaptation potential of selected habitats. Produce report and present to SAC.
- Identify existing/planned climate-related work on the Peninsula, then determine where the sanctuary can play an active role
- Continue with climate outreach and education



# Cultural, Historical & Socioeconomic

- Cultural Resource Conservation
- Public Understanding of Treaty Rights
- New Socioeconomic Information



# QUESTIONS - DISCUSSION

- Clarification on any of our planned activities?
- Is something missing?
- Relationship to Advisory Council Work Plan